

REMARKS

Reconsideration of the above-referenced application is respectively requested in view of the above amendments and these remarks. Claims 1-13 and 16-20 are currently pending.

Applicants have amended claim 1 to correct typographical errors.

Claim 1 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the phrase “send the request to the server over a persistent connection for the number is lowest” is stated to be unclear. Applicants have amended claim 1 to clarify the limitation and to obviate the rejection. Claim 1 states that the number is associated with “the number of requests sent to the server and where the requested objects have not yet been received.” This refers to the number of requests that is monitored by the claimed load tracker. Applicants have made similar amendments to independent claims 9 and 13 to clarify these claims. In view of the amendment to claim 1, Applicants respectfully submit that claim 1 is clear. Applicants therefore request that this rejection under Section 112, second paragraph, be withdrawn.

Claims 1-4, 6, 8-13 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Application Publication No. 2003/0208600 A1 to Cousin et al. in view of United States Patent No. 7,430,755 to Hughes et al. Applicants have reviewed the rejection and the statements made in the Office Action and respectfully traverse the rejection. Applicants respectfully submit that the cited combination of Cousin and Hughes do not teach the claimed metric for loading of persistent connections between a proxy and servers.

As previously stated, Applicants’ claims are directed to a persistent connection between the proxy on the network and the server. The claims clearly state that the persistent connection is with the server and the proxy and not between the server and the client, which is a different connection within the network. The claims also include limitations to keeping track of a number of requests sent over the persistent connection for requested objects from the server. This can be done by a load tracker. In addition, the claims are directed to also keeping track of an order of requested objects such that the proxy delivers the requested object to the user in such a way that when a first request is

received by the proxy before a second request from the user and the second requested object is received by the proxy from the server before the first requested object is received from the server, the first requested object is delivered to the user before the second requested object. Accordingly, the claims are directed to a specific number of requests and a specific order of delivery. Applicants respectfully submit that these limitations are not disclosed by Cousins and Hughes.

Cousins is directed to a method for managing persistent connections in a computer network environment to reduce web page service latency. Cousins employ a connection management interface (CMI) device that intermediates between a client and servers and, whenever possible, maintains the persistent connection with the client and with the server. The CMI device enables the client to see a persistent connection even where the server cannot support a persistent connection. The CMI device also reduces latency in processing serial requests from a client by distributing these requests to various serves or server processes. Cousins focuses on the situation where connections are allowed to be persistent only if content-length filled into an HTTP header. For dynamic web pages whose content-length is not known by the server in advance, the server closes the connection after sending web page, so connections do not remain persistent. The objective of Cousins' CMI is to enable client-to-CMI connection to remain persistent. Thus, the CMI receives the dynamic web page from the server in its entirety, ascertains content length and reforms the HTTP header based on the content length. The CMI sends the client modified HTTP header with the appropriate content length. This allows the client-to-CMI connection to remain persistent, but it does nothing to address the connection between the CMI and the server which Cousins states cannot support a persistent connection. As is clearly stated, Applicants' claims are directed to the persistent connection between the proxy and the server. Thus, Cousins' description of persistent connections between the client and CMI does not apply to claims persistent connection that does not concern the client but the server.

Cousins' paragraph [0021] is also cited and states "within the CMI device, the Client Network Interface Card (NIC) receives the request and places it in the Request Queue. The Master then takes that request from the Request Queue and matches it with the next available server." Applicants respectfully submit that this does not disclose the

method of assigning requests to connection. Cousins is using a next available method. On the other hand, the claims require a specific policy based on the number of requests for which responses have not been received on a given connection. This is not taught by Cousins.

Hughes is directed to system and method for providing persistence in a secure network access by using a client certificate set by a client device to maintain the identity of the target. A security handshake is performed with a client device to establish a secure session. A target is determined. A client certificate is associated with the target. During subsequent secure sessions, the client certificate is used to maintain persistent communications between the client and a target.

Hughes is cited for disclosing that a “controller performs load balancing to determine the proper target the first time in order to control the flow of data packets to and from an array of application servers.” While Hughes does disclose load balancing to distribute load between the servers, there is no specific mechanism based on the number of outstanding requests as required by the claims. Hughes does state, “The determination of a target block 506 can be made using any of a number of load balancing algorithms, including random distribution, server load, URL parsing and response time. In one embodiment, the determination is deterministic. That is, provided with the same input, such as client certificate, the determination algorithm will always result in the same target. In one embodiment, the determination is performed using an algorithm, such as a hash function, that translates a certificate into a specification of a target.” Applicants’ claims require, however, that the load tracker keep track of the number of requests sent over a persistent connections and then delivers objects over a specific persistent connection, e.g. with the lowest count, and in the claimed order. The algorithms described by Hughes are not the same as the required by Applicants claims and they do not lead to Applicants’ claimed balancing techniques. The claims require a specific policy based on the number of requests for which responses have not been received on a given connection. This is not taught by Hughes.

In view of the foregoing, Applicants respectfully submit that the cited combination of Cousins and Hughes does not disclose teach or suggest the load technique based on the number of request for which responses have not be received and where the

persistent connections are between the proxy and the server. Applicants therefore respectfully submit that independent claims 1, 9 and 13 are patentable over the cited combination. As claims 2-4, 6 and 8 depend on claim 1, claims 10-11 depend on claim 9 and claim 18 depends on claim 13, Applicants submit that these dependent claims are patentable over the cited combination for the same reasons. Applicants request that this rejection under Section 103(a) be withdrawn.

Claims 5, 7, 16, 17, 19 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cousins in view of Hughes and further in view of United States Patent Application Publication No. 2002/0055980 A1 to Goddard et al. Like Cousins, Goddard is directed to maintaining persistent connections between the clients and the dispatcher. Applicants' claims, however, are directed to the persistent connections between a proxy and servers. For these reasons and the reasons given above regarding the independent claims upon which claims 5, 7, 16, 17, 19 and 20 depend, Applicants respectfully submit that these claims are patentable over the cited combination. Applicants therefore request that this rejection under Section 103(a) be withdrawn.

As Applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, Applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, Applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter.

Serial No.10/840,053

Bedekar et al

Case No. CE10624R

Please charge any fees associated herewith, including extension of time fees, to
50-2117.

Respectfully submitted,
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